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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

JAN 25 1996

REPLY TO THE ATTENTION OF: SR-6J

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
AND FACSIMILE

Mr. Ronald Frehner
Project Coordinator - ACS NPL Site
Conestoga-Rovers & Associates
1801 Old Highway 8, Suite 114
St. Paul, Minnesota 55112

RE: **Review of Revised Workplan for Lower Aquifer Investigation; Approval with Modifications of Revised Statement of Work (SOW) and Specific Operating Procedures (SOPs) American Chemical Service, Inc., Griffith, Indiana**

Dear Mr. Frehner:

The United States Environmental Protection Agency (U.S. EPA) and the Indiana Department of Environmental Management (IDEM) have reviewed the revised Workplan for the Lower Aquifer Investigation including the revised Statement of Work (SOW) and Specific Operating Procedures (SOPs) dated December 27, 1995. As you know, the revised SOW and SOPs were submitted by Montgomery Watson on behalf of Respondents for the American Chemical Service, Inc., National Priorities List (NPL) Superfund Site located in Griffith, Indiana (ACS Site) in accordance with the Unilateral Administrative Order (UAO) (Docket No. V-W-95-C-260) which was issued by U.S. EPA on September 30, 1994.

U.S. EPA hereby approves the revised SOW and SOPs with the enclosed modifications. Respondents must address these modifications prior to the startup of field activities. Replacement pages must also be submitted prior to the startup of field activities. Once the revisions are submitted to U.S. EPA and IDEM, Respondents can proceed with the "Lower Aquifer Investigation" outlined in Task 8 of U.S. EPA's September 21, 1995, letter.

Within 45 days of receipt of this letter, Respondents must conduct the investigation. Within 120 days of receipt of this letter, Respondents must provide the results in a technical memorandum. Along with the technical memorandum, Respondents must submit a proposal for any additional investigations as well as the proposal for the groundwater monitoring detection/ compliance network.

If you have any questions, or require clarification, you may reach me at (312) 886-4745.

Sincerely,

Sheri L. Bianchin

Sheri L. Bianchin,
Remedial Project Manager
Superfund Division
Remedial Response Section #3

Enclosure

cc: Joseph Adams, Montgomery Watson
Peter Vagt, Montgomery Watson
Holly Grejda, Project Manager; IDEM, Office of Superfund
Steve Mrkvicka, Black & Veatch Waste Science, Inc.
Steve Mangion, U.S. EPA
Richard Byvik, U.S. EPA, SFD, TST
Mike McClary, U.S. EPA, ORC

ENCLOSURE

REVIEW OF REVISED WORKPLAN FOR LOWER AQUIFER INVESTIGATION INCLUDING SOW AND SOPs (12-27-95), AMERICAN CHEMICAL SERVICE, INC.; GRIFFITH, INDIANA

1. **Tab A, Statement of Work (SOW), Page 1, Second Bullet.**

   The text should be revised to state: Determine the horizontal and vertical extent of lower aquifer groundwater contamination.

2. **Tab A, SOW, Page 1, Paragraph 1.**

   Revise the beginning of the sentence to state: This phase of the investigation includes conducting the following activities at select locations: . . . "

3. **Tab A, SOW, Page 1, Paragraph 2.**

   Add the following language to the first sentence: " . . . vertical aquifer profiling for target volatile organic compounds (VOCs) . . . "

   Also, discuss the rationale for targeting VOCs for the lower aquifer profiling.

4. **Tab A, SOW, Page 2, Set Casing, Paragraph 1.**

   The document states "the upper aquifer is contaminated with organic compounds." This statement is inconsistent with the findings of the Remedial Investigation Report and the contaminants listed in Table 1 of the ROD. Revise the sentence accordingly, such as the following. " The upper aquifer is contaminated with organic compounds, among others."

5. **Tab A, SOW, Page 7, Paragraph 1.**

   The document states that at location MW-28, two piezometers may be installed in a single borehole. This is not acceptable; piezometers will be installed in separate boreholes. Revise the text accordingly.

6. **Tab A, SOW, Page 7, Paragraph 1.**

   The document states " Quality Assurance samples will include a duplicate sample and a trip blank". Matrix Spike/Matrix Spike Duplicates (MS/MSD) are part of the Quality Assurance (QA) process and should be included in the analysis.

7. **Tab A, SOW, Page 7, Paragraph 5.**

The document proposes to record water levels in the upper and lower aquifers using a data logger and transducers. The statement of work needs to state that periodic manual water level measurements will be collected to confirm that data logger readings.

8. **Tab A, SOW, Page 8, Paragraph 2, Handling of Investigative Derived Wastes.**

All purge water should be containerized and kept on-site until material has been analyzed for the analytes listed in Table 7 and 8 of the ROD. Field analyses will only consist of target organic compounds and will not take into account additional contaminants which may also be in groundwater.

9. **Tab A, SOW, Table 2, MW-7.**

The elevation values given "Ground Surface" and "Top of Confining Layer" are inconsistent with the boring logs provided in Appendix D of the Remedial Investigation Report. This needs to be corrected.

10. **Tab A, SOW, Page 2, Fourth Paragraph.**

Revise the text to state the following: "Based on the assumption that bentonite mud would not be used during the drilling process, sonic drilling was selected..."

11. **Tab A, SOW, Page 3, Vertical Profiling of the Lower Aquifer, First Paragraph.**

Add the following language to the first sentence: ". . . and to screen for the vertical and horizontal extent . . . "

12. **Tab A, SOW, Page 3, Vertical Profiling of the Lower Aquifer, First Paragraph.**

Add the following sentence after the first sentence. "These locations are distal from the known source areas."

13. **Tab A, SOW, Page 6.**

Regarding M4, provide the monitoring data to support the conclusion reached that this well is not causing cross-contamination of the lower aquifer.

14. **Tab A, SOW, Page 8, Fourth Paragraph.**

Purge water and soil cuttings must be considered contaminated until they are tested and found to contain concentrations below the values presented in the full list of groundwater and soil contaminants (Tables 7 and 8 presented in the ROD). Therefore, all purge water and soil cuttings must be containerized onsite. Revise the indicated paragraph in accordance with this comment.

15. **Tab B, Specific Operating Procedures (SOP), Page 3, Section IV, Aquifer Matrix Sampling, Part B, Item 5.**

Headspace samples should not be made by scanning the core with a photoionization detector (PID), as stated in the text. This is a poor method of obtaining consistent readings. Instead, headspace measurements should be made using a procedure similar to the following:

a. Collect soil from several sections of the core and place in a glass jar.
b. Cover the jar with aluminum foil and seal with a screw-type cap.
c. After the jar has rested at room temperature for a period of approximately 5-10 minutes, the jar should be shaken and a headspace reading made.
Note: The PID probe should be inserted directly through the aluminum foil to minimize loss of volatile contaminants.

U.S. EPA acknowledges that even though part of the core will be disturbed through this method, it is the best method for obtaining headspace measurements.

16. **Tab B, SOP, Page 5, Section V, Vertical Profiling - Groundwater Sampling, Part D.**

Define the stabilization criteria for the temperature, conductivity, turbidity and pH.

17. **Tab B, SOP, Page 5, Section V, Vertical Profiling - Groundwater Sampling, Part D, Item 4.**

If bubbles are present in the vial, a new vial should be used and another sample collected. It is not recommended to remove the cap and top off the vial.

18. **Tab B, SOP, Page 11, Active Production Well Evaluation and Sampling Procedure, Item 4.**

The statement " . . .allowing the water to run for at least 10 minutes or until the pump cycles on and off several times" is unclear. For example, it is not clear if the water will run for 10 minutes regardless of the number of time the pump cycles; or if the pump cycles on and off several times but it is less than 10 minutes and whether the samples will be collected at that time. In addition, clarify the meaning of "several times". Provide clarification of the above mentioned ambiguities.

19. **Tab B, SOP, Sonic Drilling Well Installation, Page 18, Part D, Item 4.**

It is recommended that Surrogates, **a,a,a-Trifluorotoluene** and **1,4-Dichlorobutane**, be added to the samples to monitor system and method performance.

20. **Tab B, SOP, Sonic Drilling Well Installation, Page 18, Quality Control.**

It is recommended that the **Calibration Check Standard** be analyzed at the beginning and the end of the day, in addition to the every 10 or fewer samples.